

File:Leyden jar engraving.png



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Summary

Description **English:** Drawing of a Leyden jar, a piece of antique scientific apparatus used to store electric charge, from a 1919 physics text. Invented by Dutch scientist Pieter von Musschenbroek of Leiden in 1745, it was the first type of capacitor. It consists of a glass jar with tin foil coating the outside and inside surfaces. A brass electrode pierces the stopper, with a hanging chain attached which makes contact with the inner foil, so the jar can be charged. In use, the outside of the jar is connected to ground, and the central electrode is attached to a high voltage electrostatic machine. A large charge of static electricity accumulates on the inner foil, and an opposite polarity charge accumulates on the outer foil. If a

wire connected to the outer foil is brought near the central electrode, a spark will jump, discharging the jar. The foil linings stop well short of the mouth of the jar so the charge on the foils can't discharge by arcing through the mouth. The glass was usually shellacked before applying the foil, because bare glass forms a partially conductive hygroscopic coating which tended to discharge the jar.

Date before 1919

Source Downloaded August 13, 2013 from Robert Alexander Houstoun 1919 *Elements of Physics*, Longmans, Green and Co., New York, p. 176, fig. 170 on Google Books

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